

Alaska Health Status Indicators

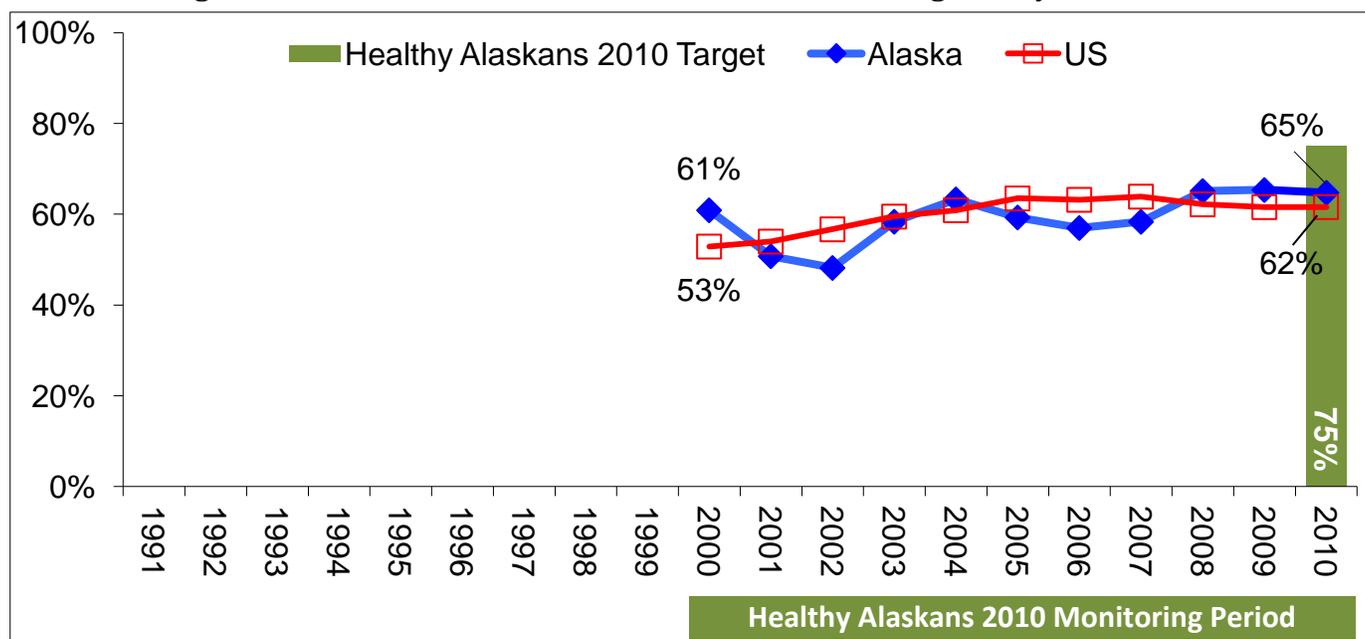
Indicator: *Self-Monitoring of Blood Glucose by Adults with Diabetes*

Why is this important?

Having diabetes dramatically increases risk of heart disease, foot ulcers or lower extremity amputations, kidney disease, and vision impairment including blindness. Blood *sugar* is a slightly less formal term for blood *glucose*, which is energy carried to cells in the blood. The Diabetes Control and Complications Trial (DCCT) and the UK Prospective Diabetes Study (UKPDS) demonstrated that these risks can be substantially moderated by controlling blood sugar levels, keeping them in the normal range.^{1,2} This type of management depends on individuals knowing their long-term and real-time blood sugar levels. Self-management of blood glucose (SMBG) provides the needed real-time feedback. It is cost-effective for everyone with diabetes, with a cost per life-year gained of \$39,650³ and an incremental cost ratio of 0.103 quality-adjusted life years gained for daily SMBG.⁴

How are we doing?

Percentage of Adults with Diabetes Who Monitor Their Blood Sugar Daily: Alaska and the U.S.



This indicator has been measured reliably as of 2000. The percentage of Alaska adults with diabetes who monitor their blood sugar daily has fluctuated between 48% and 65% over the past decade.

❖ How is Alaska Doing Relative to the *Healthy Alaskans 2010 Target*?

The *Healthy Alaskans 2010* target for the prevalence of daily self-monitoring of blood glucose levels (among adults with diabetes) is 75% or higher. The percentage of adult Alaskans with diabetes who monitor their blood sugar levels daily was 61% in 2000 and 65% in 2010. **The *Healthy Alaskans 2010* target of 75% has not been met.**

❖ How does AK compare with the US?

The AK and US rates for daily self-monitoring of blood sugar levels are similar.

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❖ How are different populations affected?

Rural Alaska residents were significantly less likely to report at least daily self-monitoring (47%) than people living in the Anchorage and vicinity (67%) and Fairbanks and vicinity (70%) BRFSS regions. There were no other significant differences in the percentages of Alaska adults with diabetes that reported self-monitoring their blood glucose at least daily based on race, ethnicity or age. (Source: 2008-2010 BRFSS.)

What is the Alaska Department of Health and Social Services doing to improve this indicator?

(1) The Diabetes Program sponsors Living Well Alaska, through which Alaskans with diabetes, their caregivers and their family members and senior citizens can participate in Diabetes Self-Management Program (DSMP) workshops. Stanford University developed DSMP, which has an evolving evidence base demonstrating its positive impact on increasing participants' interest in engaged self-management of the disease. Studies by Stanford have shown increases in self-monitoring of blood glucose by participants.⁵

(2) The Diabetes Program advocates for formal diabetes self-management education coverage by health care insurers, including the Alaska Medicaid Program. Research has shown a strong correlation between receiving self-management education and self-monitoring of blood glucose.²

Indicator Definition and Notes

Percentage of adults aged 18 years and older with diabetes who respond with a number greater than 0 times per day to the following question: *About how often do you check your blood for glucose or sugar? Include times when checked by a family member or friend, but do NOT include times when checked by a health professional.* Diabetes status is indicated by a respondent answering "Yes" to the following question: *Have you ever been told by a doctor that you have diabetes?*

Data Sources

Alaska: Alaska Behavioral Risk Factor Surveillance System, Alaska Department of Health and Social Services; US: Behavioral Risk Factor Surveillance System, Centers for Disease Control and Prevention. Alaska data were obtained from the Standard AK BRFSS from 2000 through 2003, and from the Standard and Supplemental AK BRFSS surveys combined from 2004 through 2010. The Supplemental BRFSS survey is conducted using identical methodology as the Standard BRFSS and allows a doubling of the BRFSS sample size for those measures included on both surveys.

References

1. See for example, Parati G, Bilo G, Ochoa JE. Benefits of tight blood pressure control in diabetic patients with hypertension: importance of early and sustained implementation of effective treatment strategies. *Diabetes Care*. 2011 May;34 Suppl 2:S297-303.
2. See for example, White NH, Sun W, et al. Effect of prior intensive therapy in type 1 diabetes on 10-year progression of retinopathy in the DCCT/EDIC: comparison of adults and adolescents. *Diabetes*. 2010 May;59(5):1244-53. Epub 2010 Feb 11.
3. Boutati EI, Sotirios SA. Self-Monitoring of Blood Glucose as Part of the Integral Care of Type 2 Diabetes. *Diabetes Care* November 2009; 32(S2); S205-S210.
4. Tunis SL Minshall ME. Self-Monitoring of Blood Glucose: Cost Effectiveness in the United States. *Am J Managed Care* March 2008; 14(3); 131-140.
5. Lorig K, Ritter P, et al. Community-based peer-led diabetes self-management: A randomized trial. *Diabetes Educator* July/August 2009; 35(4); 641-651.



Available at: <http://www.hss.state.ak.us/dph/chronic/>

